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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/612,548	07/07/2000	Hiromi Shikata	040679/1099	9368

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FOLEY AND LARDNER
SUITE 500
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WASHINGTON, DC 20007

EXAMINER

LE, BRIAN Q

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 09/08/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/612,548

Applicant(s)

SHIKATA, HIROMI

Examiner

Brian Q Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on August 01, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Amendment and Arguments

1. Applicant's amendment filed August 01, 2003, has been entered and made of record.
2. Applicant's arguments with regard to claims 1-31 have been fully considered, but are not considered persuasive because of the following reasons:

Applicant's arguments are directed toward various portions of Hashima cited by the Examiner. The Examiner points out that the rejections were based upon the entire reference. Therefore, Applicant is urged to consider the reference as a whole.

The Applicant argues (on page 9) that Hashima does not disclose a claimed feature of the present invention which corresponds to the step of obtaining a normalized correlation coefficient between a reference image and an input image using a function. The Applicant further indicates (on page 9) that Hashima does not teach this concept according the column 1, lines 39-43; column 2, lines 18-24; and column 8, lines 1-14 of Hashima. The Examiner respectfully disagrees. Hashima clearly indicates the need of using normalized correlation operation on column 1, lines 39-43 as stated **"In order to solve this problem, it is effective to adopt a method of applying a normalized correlation operation."** Also, Hashima indicates that an approximation value or a mathematically calculated value is acceptable in determining the correlation values as stated "and any one is acceptable" on column 2, lines 18-24 and further elaborates on this idea on column 8, lines 1-14.

In addition to the argument above, the Applicant argues (bottom of page 9) that Hashima teaches the concept of obtaining a normalized correlation coefficient between "each of the two reference images and the notice area" which is different from the Applicant's present invention, obtaining normalized correlation method that requires only one reference image. However, even

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Hashima discloses multiple reference images, he still teaches the concept of find a normalized correlation between each of the reference image and the input image (one reference image at a time).

Thus, the rejections of all of the claims are maintained.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 14-17, 19 and 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation as mentioned in claims 14-17, 19 and 31 “reference image storing step is **carried out only once**” is not disclosed in the specification.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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6. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, and 6-7, and 10-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Hashima U.S. Patent No. 6,115,505.

Regarding claim 1, Hashima teaches a method of recognizing an object (Abstract) based on pattern matching (FIG. 1, element 180) using a gray-scale (FIG. 9) normalized correlation method (FIG. 1, elements 140 and 150; column 7, lines 57-66; column 8, lines 1-14; column 1, line 67 and column 2, lines 1-17), comprising the steps of:

Storing a reference image including a foreground and a background, said foreground and said background each having a predetermined value of density distribution (FIG. 5; column 1, lines 59-62 and column 7, lines 3-23 and 39-45);

Inputting an image of the object (FIG. 1, element 110) said image including a foreground and a background, said foreground and said background each having a predetermined average value of density distribution (column 1, lines 63-67);

Storing a function for giving said predetermined values of density distribution of said reference image equal to said predetermined average values of density distribution of said input image, respectively (column 15, lines 29-34); and

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Obtaining a normalized correlation coefficient between said reference image and said input image using said function (column 16, lines 27-30).

Referring to claim 6, Hashima teaches the method wherein said normalized correlation coefficient is obtained from simple summation of a cross-correlation coefficient (column 8, lines 1-5).

For claims 7, please refer back to claims 1 for the explanation.

Referring to claim 10, Hashima teaches the method wherein said normalized correlation coefficient is calculated with a term of a background of said reference image excluded from an equation of an autocorrelation coefficient (column 9, lines 39-49) of each of said reference image and said input image and an equation of a cross-correlation coefficient between said reference image and said input image (column 8, lines 1-5).

For claim 11, please refer back to claim 6.

For claim 12, please refer back to claim 1. In addition, Hashima teaches a medium for recording (column 1, line 60) a computer program (column 13, line 40) to process the limitations in claim 12.

Regarding claim 13, please refer back to claim 12 and claim 1 for further explanation.

For claims 14-17, Hashima teaches the method wherein said reference image storing step is carried out only once (column 5, line 60 and column 7, lines 10-11).

Regarding claim 18, please refer back to claim 1 for the explanation.

For claim 19, please refer back to claims 14-17.

Regarding claims 21-24, please refer back to claims 2 and 3 for the explanation.

For claims 25-27, please refer back to claims 4-6 for further explanation.

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Regarding claim 28, Hashima teaches the method wherein the calculating step is carried out respect to the normalized correlation coefficient between the foreground of the reference image and the foreground (noticed area of the image is foreground) of the input image only (column 5, lines 5-10).

Regarding claims 29-31, please refer back to claims 10, 1, and 14-17 respectively for further explanation.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-5, and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashima U.S. Patent No. 6,115,505.

Regarding claims 2 and 3, Hashima does not teach a concept of high predetermined value of density function distribution represents foreground, low predetermined value of density function distribution represents background and vice versa. The Examiner takes Official Notice that it is well known to represent foreground or background using either high or low predetermined value of density function distributions. Use of a particular predetermined value of density function distribution for foreground or background is arbitrary, and would be based upon designer preference.

Regarding claim 4, Hashima teaches a method wherein said function is obtained by designating a pattern of said reference image (column 1, lines 60-65), overlaying (superimpose)

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(column 9, lines 31-40) an image of said pattern on said input image, and designating one of a predetermined average value of density distribution of said image and a predetermined value of density of said image (column 4, lines 1-13 and column 8, lines 48-65).

For claim 5, Hashima teaches the method wherein said function is obtained by extracting (cutting out) an outline of the object, overlaying an image of said outline on said input image, and designating one of a predetermined average density distribution of said image and a predetermined value of density of said image (column 8, lines 15-65).

For claims 8 and 9, please refer back to claims 4 and 5 respectively for the explanation.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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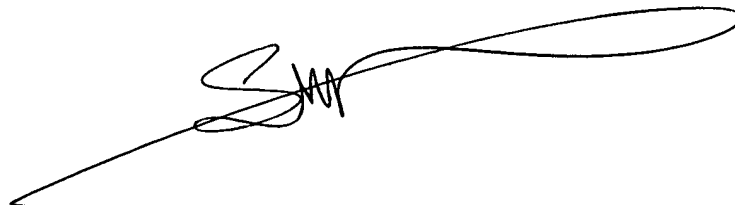
Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5397 for regular communications and 703-308-5397 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

BL
August 26, 2003

A handwritten signature in black ink, appearing to read 'SAMIR AHMED', with a long horizontal flourish extending to the right.

**SAMIR AHMED
PRIMARY EXAMINER**